

SUMMARY

OF THE

IMPROVEMENTS AND DISCOVERIES

IN THE

MEDICAL SCIENCES.

ANATOMY AND PHYSIOLOGY.

1. *Period at which the foramen ovale, the ductus arteriosus and ductus venosus become obliterated.*—It results from the investigations of M. ELSÆSSER, made on 144 children, that the obliteration of these temporary circulatory channels, does not take place until a month or six weeks after birth.—*L'Expérience*, Aug. 24th, 1843, from *Heke's Zeitschreft*, t. 42.

2. *Absorption.*—M. LACAUCHIE describes the intestinal villi as possessing during life a power of alternately retracting and elongating themselves by a kind of vermicular motion, which he believes to be influential in the propulsion of chyle. And his account, so far as these movements are concerned, is confirmed by MM. GRUBY and DELAFOND, who have observed them in the recently slain horse, dog, and rabbit. They add that besides the movements of retraction and elongation, the villi are capable of moving laterally in all directions, and that their epithelium-cells bear ciliæ.—PAGET's *Report on the Progress of Anatomy in Brit. and For. Med. Rev.*, Jan. 1844.

3. *Blood in the brain.*—Dr. GEORGE BURROWS having repeated the experiments of Dr. Kellie and performed others has shown, in opposition to the opinions commonly entertained, 1st, that the brains of animals bled to death are deprived of their blood, and rendered pale and anæmic; 2, that the quantity of blood in the head is greatly affected by posture and gravitation; 3, that in death, by apnœa there is intense congestion of the cerebral vessels. And from these facts and from several considerations he deduces that the opinion that the quantity of blood within the cranium is at all times the same is untrue. Admitting that the total contents of the cranium must be at all times nearly the same, the cerebro-spinal fluid is rapidly removable from one site to another, and capable of being altogether removed by absorption; so that this fluid may be regarded as supplemental to the other contents of the cranium—at one time giving place to the increased quantity of blood, at another making up for the deficiency of blood in the vessels and in the same manner varying according to the actual quantity of nervous substance.—*Ibid.*

4. *Optic nerves.*—Professor ERDL considers that he has traced the fibres of the optic nerves through the following long course: From the optic tract they diverge and expand in the substance of the thalami, then again converge towards the anterior part of the thalami and unite into a cord distinguished by its white colour, which descends into the corpora albicantia, forms a loop in them, and then turning upwards and forwards ascends through the anterior crura into the

body of the fornix. From the fornix the fibres are continued into its posterior crura, and into the corpora fimbriata, in which they descend into the pes hippocampi on each side, whence again they ascend in the tapetum to the posterior part of the corpus callosum, in which the fibres of the two sides again unite. He describes also the generally admitted fibres passing from one retina to the other through the anterior part of the optic commissure; and he supposes that the peripheral ends of these fibres are connected with those of the fibres whose course is described above, so as to form a kind of closed system or nervous ring.—*Ibid.*

5. *Nervus vagus and nervus accessorius.*—MR. SPENCE has contributed a fact of great importance to the reconciling of the contrary statements respecting the motor functions of the pharyngeal and inferior laryngeal branches of the vagus nerve. He has traced a filament (distinguished from the rest of the vagus by its white colour,) which, arising from the groove between the olivary and restiform bodies, passes along the course of the vagus trunk, but goes over without joining the superior ganglion, and does not join the vagus trunk till just above the inferior ganglion. At this point of junction it is also joined by the internal branch of the accessorius, and from the junction of the two the pharyngeal branch of the vagus is given off. The conjoined white cord then descending with the vagus, seems to pass principally into the recurrent nerve, and probably sends filaments into the œsophageal branches.

Mr. Spence, whose dissections agree nearly with those of Bendz, proposes for the separated white cord of the vagus the name of the motor column of the vagus, (motor root would perhaps be better,) and likens its arrangement to that of the motor root of the fifth nerve, passing under the Gasserian ganglion, and joining the trunk beyond it. The pharyngeal branch of the vagus and the recurrent laryngeal being thus given off from the internal branch of the accessorius and from a motor root of the vagus, their purely motor functions are sufficiently accounted for; and the experiments of Dr. John Reid, in which irritation of the roots of the vagus nerve produced movements of the larynx, are explained. It is still, however, not clearly explained why his experiments of irritating the accessorius within the skull, did not (as those of M. Longet did,) produce movements of the same organ. It is possible that all the filaments of the nerves were not implicated in the irritation.

A confirmation amounting almost to proof of this view of the influence of the nervus accessorius in the movements of the human larynx, is afforded by the fact, that according to Professor W. Vrolik, the internal branch of the nervus accessorius in the chimpanzé does not join the vagus, but goes at once and separately to the larynx, while the external branch is distributed almost exclusively to the trapezius. And other facts confirmatory of the same view are supplied by the experiments of Signor Morganti; which also tend to show that the external branch of the accessorius contains the fibres which have their origin lowest down on the cord, while the internal branch contains those which arise higher up, just below the vagus, of which the author considers the accessorius to be the anterior root.—*Ibid.*

6. *Escape of ova independent of fecundation, and the connection of this with menstruation.*—Each act of menstruation is connected with the maturation and discharge of an ovum. Numerous cases in proof of this are related (in addition to those formerly recorded by him, and by MM. Gendrin, Negrier, and others,) by Dr. Robert Lee; others by Mr. Girdwood. M. Raciborski has four times found that ova had been recently discharged from the ovaries of virgins who died at or near the period of menstruation; and Bischoff has also four times found Graafian vesicles, containing effused blood, in girls who had recently menstruated.

This menstrual discharge of an ovum is said by Raciborski and Bischoff to be followed by the formation of a corpus luteum, similar to that which is formed when the ovum is impregnated and developed. [But in this I have no doubt they